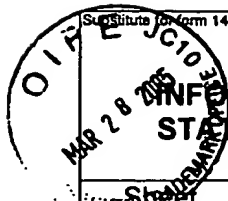


**U.S. PATENT DOCUMENTS**

## FOREIGN PATENT DOCUMENTS

## NON-PATENT LITERATURE DOCUMENTS

**Examiner  
Signature**



Substitute for form 1449A/PTO &amp; 1449B/PTO

FIRST  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

4

## Complete if Known

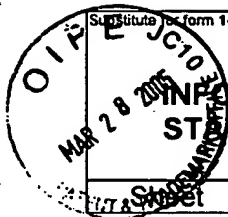
Application Number	09/409,644
Filing Date	October 1, 1999
First Named Inventor	Nathan S. Lewis et al.
Examiner Name	Soderquist, Arlen
Attorney Docket Number	034345-086

## U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
as	6,844,197		Doleman et al.	01-18-2005
	6,841,391		Lewis et al.	01-11-2005
	6,773,926		Freund et al.	08-10-2004
	6,759,010		Lewis et al.	07-06-2004
	6,752,964		Grubbs et al.	06-22-2004
	6,631,333		Lewis et al.	10-07-2003
	6,610,367		Lewis et al.	08-26-2003
	6,571,603		Doleman et al.	06-03-2003
	6,537,498		Lewis et al.	03-25-2003
	6,495,892		Goodman et al.	12-17-2002
	6,467,333		Lewis et al.	10-22-2002
	6,455,319		Lewis et al.	09-24-2002
	6,387,329		Lewis et al.	05-14-2002
	6,350,369		Lewis et al.	02-26-2002
	6,331,244		Lewis et al.	12-18-2001
	6,319,724		Lewis et al.	11-20-2001
	6,305,214		Schattke et al.	10-23-2001
	6,290,911		Lewis et al.	09-18-2001
	6,244,096		Lewis et al.	06-12-2001
	6,202,471		Yadav et al.	03-20-2001
	6,200,814		Malmqvist et al.	03-13-2001
	6,170,318		Lewis et al.	01-09-2001
	6,134,461		Say et al.	10-17-2000
	6,103,033		Say et al.	08-15-2000
	6,085,576		Sunshine et al.	07-11-2000
	6,007,775		Yager	12-28-1999
	5,980,723		Rung-Marchese et al.	11-09-1999
as	5,958,787		Schonfeld et al.	09-28-1999
	<del>5,928,600</del>		<del>Gibson et al.</del>	<del>07-27-1999</del>
as	5,879,827		Debe et al.	03-09-1999
	5,876,577		McAleer et al.	03-02-1999
	5,846,744		Athey et al.	12-08-1998
	5,832,411		Schatzmann et al.	11-03-1998
	5,807,701		Payne et al.	09-15-1998
	5,804,100		Angelopoulos et al.	09-08-1998
	5,766,934		Guisseppi-Elie	06-16-1998
	5,742,223		Simendinger III et al.	04-21-1998
	5,705,265		Clough et al.	01-06-1998
	5,677,662		Bresolin et al.	10-14-1997
	5,698,771		Shields et al.	12-16-1997
	5,674,752		Buckley et al.	10-07-1997
	5,536,473		Monkman et al.	07-16-1996
	5,519,147		Swager et al.	05-21-1996
	5,505,093		Giedd et al.	04-09-1996
	5,451,920		Hoffheins et al.	09-19-1995
	5,425,869		Noding et al.	06-20-1995
as	5,302,274		Tomantachger et al.	04-12-1994

Examiner Signature	<i>Arlen Soderquist</i>	Date Considered	7/11/05
--------------------	-------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Substitute for Form 1449A/PTO &amp; 1449B/PTO

**FIRST  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

PTA Model

2

of

4

**Complete if Known**

Application Number	09/409,644
Filing Date	October 1, 1999
First Named Inventor	Nathan S. Lewis et al.
Examiner Name	Soderquist, Arlen
Attorney Docket Number	034345-086

**U.S. PATENT DOCUMENTS**

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
as	5,298,783		Xianghui Wu	03-29-1994
	5,286,414		Kampf et al.	02-15-1994
	4,980,541		Shafe et al.	12-25-1990
	4,946,562		Guruswamy	08-07-1990
	4,927,502		Reading et al.	05-22-1990
	4,923,739		Jin et al.	05-08-1990
	4,772,559		Preti et al.	09-20-1988
	4,737,112		Jin et al.	04-12-1988
	4,453,126		Volgyesi	06-05-1984
as	20040147038		Lewis et al.	07-29-2004
as	20040042933		Lewis et al.	03-04-2004
as	20040033165		Lewis et al.	02-19-2004
as	20030159927		Lewis et al.	08-28-2003
as	20030136960		Goodman et al.	07-24-2003
as	20020197390		Lewis et al.	12-26-2002
as	20020192117		Lewis et al.	12-19-2002
as	20020143477		Lewis et al. Antoine et al.	10-03-2002
as	20020141901		Lewis et al.	10-03-2002
as	20020081232		Lewis et al.	06-27-2002
as	20020017125		Lewis et al.	02-14-2002
as	20020005580		Goodman et al.	01-17-2002
as	20010041366		Lewis et al.	11-15-2001

**FOREIGN PATENT DOCUMENTS**

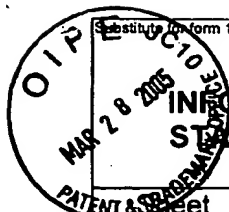
Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	STATUS						
					Translation	Partial Translation	Eng. Lang. Summary	Search Report	IPER	Abstract	Cited in Spec
as	0 878 711A1		EP	11-18-1998							
as	WO 94/24561		WIPO	10-27-1994							
as	WO 90/09027		WIPO	08-09-1990							

**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
as	Bodenhofer et al., "Chiral Discrimination by Simple Gas Sensors," <u>Transducers</u> , 1997 International Conference on Solid-State Sensors and Actuators, Digest of Technical Papers, <u>Transducers</u> 97, Chicago, IL, June 16-19, 1997, Vol. 2, pp. 1391-1394 IEEE
as	Chandiok et al., "Screening for bacterial vaginosis: a novel application of artificial nose technology," <u>J. Clin. Pathol.</u> , Vol. 50, pp. 790-791 (1997)
as	Jiang et al., "Preparation and Properties of Organic Polymer Sub-Micrometer Function Films," <u>Electrets</u> , 1996, 9 <sup>th</sup> International Symposium on Shanghai, China, September 25-30, 1996, NY, pp. 678-683.

Examiner Signature	Arlen Soderquist	Date Considered	7/11/05
--------------------	------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



Substitute Form 1449A/PTO &amp; 1449B/PTO

**FIRST  
INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

3

of

4

**Complete if Known**

Application Number	09/409,644
Filing Date	October 1, 1999
First Named Inventor	Nathan S. Lewis et al.
Examiner Name	Soderquist, Arlen
Attorney Docket Number	034345-086

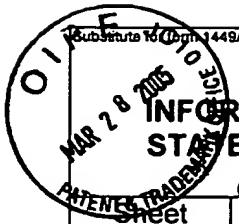
**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
AS	Lefebvre et al., "Chemical Synthesis, Characterization, and Electrochemical Studies of Poly (3,4-ethylenedioxythiophene)/poly(styrene-4-sulfonate) composites," <u>Chem. Mater.</u> , Vol. 11, No. 2, pp. 262-268 (1999)
AS	Stussi et al., "Chemiresistive conducting polymer-based odour sensors: influence of thickness changes on their sensing properties," <u>Sensors and Actuators</u> , Vol. B43, pp. 180-185 (1997)
AS	Weherns et al., "Calibration of an array of voltammetric microelectrodes," <u>Analytica Chimica Acta</u> , No. 334, pp. 93-101, 1996
AS	Williams et al., "Resolving combustible gas mixtures using gas sensitive resistors with arrays of electrodes," <u>J. Chem. Soc., Faraday Trans.</u> , Vol. 92, No. 22, pp. 4497-4504, 1996
AS	Shurmer et al., "Integrated Arrays of Gas Sensors Using Conducting Polymers with Molecular-Sieves," <u>Sensors and Actuators</u> , Vol. 4, pp. 29-33, 1991
AS	Cornila et al., "Capacitive sensors in CMOS technology with polymer coating," <u>Sensors and Actuators</u> , Vol., 25, pp. 357-361, 1995
AS	Albert et al., "Cross-Reactive Chemical Sensor Arrays," <u>Chem. Rev.</u> , Vol. 100, No. 7, pp. 2595-2626, 2000
AS	Doleman et al., "Use of compatible polymer blends to fabricate arrays of carbon black-polymer composite vapor detectors," <u>Anal. Chem.</u> , Vol. 70, No. 13, pp. 2560-2564, July 1, 1998.
AS	Benes et al., "Sensors based on piezoelectric resonators," <u>Sensors and Actuators</u> , Vol. A48, No. 1, pp. 1-21, 1995
AS	Grate et al., "Surface acoustic-wave vapor sensor based on resonator devices," <u>Anal. Chem.</u> , Vol. 63, No. 17, pp. 1719-1727, September 1, 1991
AS	Dziedzic et al., "1/f noise I polymer thick-film resistors," <u>J. Phys. D-Appl. Phys.</u> , Vol. 31, pp. 2091-2097, 1998
AS	Fu et al., "Electrical characteristics of polymer thick film resistors, Part I: Experimental results," <u>IEEE Transactions on Components, Hybrids, and Manufacturing Technology</u> , Vol. 4, No. 3, pp. 283-288, September 1981
AS	Deen et al., "Low frequency noise in heavily doped polysilicon thin film resistors," <u>J. Vac. Sci. Technol.</u> , Vol. 16, No. 4, pp. 1881-1884, July/August 1998
AS	Peled et al., "1/f noise I bismuth ruthenate based thick-film resistors," <u>IEEE Transactions on Components, Packaging, and Manufacturing Technology, Part A20</u> , Vol. 20, No. 3, pp. 355-360, September 1997
	<del>Hongshi et al., "Preparation and characterization of polyaniline-palladium composite films," <u>Mat. Res. Soc. Symp. Proc.</u>, Vol. 369, pp. 581-585, (1995)</del>
	<del>Yassar et al., "Preparation and electroactivity of poly(thiophene) electrodes modified by electrodeposition of palladium particles," <u>J. Electroanal. Chem.</u>, Vol. 255, pp. 53-69, 1988</del>
	<del>Grimeshaw et al., "Redox behaviour of polypyrrole films containing naphthoquinone and benzoquinone-groups," <u>J. Electroanal. Chem.</u>, Vol. 281, pp. 125-132 (1990)</del>
	<del>Iyeda et al., "The 100-A-order depth profile control of polypyrrole-poly(3-methylthiophene) composite thin-film by potential-programmed electropolymerization," <u>J. Phys. Chem.</u>, Vol. 95, No. 13, pp. 5245-5220, (1991)</del>
	<del>Dogan et al., "Conducting polymers of aniline II. A composite as a gas sensor," <u>Synthetic Metals</u>, Vol. 60, pp. 27-30, (1993)</del>
	<del>Elisbet et al., "Kinetic studies in the electroinitiated polymerization of N-vinylcarbazole and related conducting polymer composites," <u>J.M.S. - Pure Appl. Chem.</u>, Vol. A31, No. 5, pp. 593-611, (1994)</del>
	<del>Huang et al., "Coating of uniform inorganic particles with polymers," <u>J. Colloid. And Inter. Sci.</u>, Vol. 170, pp. 275-283, (1995)</del>
	<del>Selampinar et al., "A conducting composite of polypyrrole II. As a gas sensor," <u>Synth. Metals</u>, Vol. 68, pp. 109-116, (1995)</del>
	<del>Hepel et al., "Effect of the composition of polypyrrole substrate on the electrodeposition of copper and nickel," <u>J. Electrochem. Soc.</u>, Vol. 143, No. 2, pp. 498-505, February, 1996</del>

Examiner Signature	<i>Arlen Soderquist</i>	Date Considered	7/14/05
-----------------------	-------------------------	--------------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Already of record - 9/1



Substitute for Form 1449A/PTO & 1449B/PTO			<b>Complete if Known</b>	
<b>FIRST INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <small>(use as many sheets as necessary)</small>			Application Number	09/409,644
			Filing Date	October 1, 1999
			First Named Inventor	Nathan S. Lewis et al.
			Examiner Name	Soderquist, Arlen
			Attorney Docket Number	034345-086
Sheet	4	of	4	

NON-PATENT LITERATURE DOCUMENTS	
Examiner Initials	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
<del>—</del>	<del>Collins et al., "Conductive polymer-coated fabrics for chemical sensing," Synth. Metals, Vol. 78, pp. 93-101, (1996)</del>
<del>—</del>	<del>Bozkurt et al., "Conducting polymer composites of polypyrrole and polyindene," Synth. Metals, Vol. 82, pp. 41-46, (1996)</del>
<del>—</del>	<del>Tatu et al., "Electrochemical copolymerization of thiophene and aniline," J. of Polymer Sci., Part A: Polymer Chemistry, Vol. 34, pp. 2981-2989, (1996)</del>
<del>—</del>	<del>Gibson et al., "Biomimicry of smell using organic electroconductive polymer sensor arrays: Applications in an electronic nose," Polymeric Materials Sci. and Eng., Vol. 76, pp. 515-516, (1997)</del>
<del>—</del>	<del>Gibson et al., "Detection and simultaneous identification of microorganisms from headspace samples using an electronic nose," Sensors and Actuators B, Vol. 44, pp. 413-422, (1997)</del>

References are already of record

Examiner Signature	<i>Arlen Soderquist</i>	Date Considered	7/11/05
--------------------	-------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.